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Workshop on HCI and Game interfaces: A long romance

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ABSTRACT

This full day workshop invites participants to consider the nexus where the interests of game design, the expectations of play and HCI meet: the game interface. Game interfaces seem different to the interface to other software and there have been a number of observations. Shneiderman famously noticed that while most software designers are intent on following the tenets of the “invisible computer” and making access easy for the user, games interfaces are made for players: they embed challenge. Schell discusses a “strange” relationship between the player and the game enabled by the interface and user interface designers frequently opine that much can be learned from the design of game interfaces. So where does the game interface actually sit? Even more interesting is the question as to whether the history of the relationship and subsequent expectations are now limiting the potential of game design as an expressive form. Recent innovations in I/O design such as Nintendo’s Wii, Sony’s Move and Microsoft’s Kinect seem to usher in an age of physical player-enabled interaction, experience and embodied, engaged design. This workshop intends to cast light on this often mentioned and sporadically examined area and to establish a platform for new and innovative design in the field.

Author Keywords

Game design, interaction design, game studies, interfaces, designing for engaged experience

INTRODUCTION: IS SHE REALLY GOING OUT WITH HIM?

The relationship between game design and HCI is often mentioned as special and distinct. It is also frequently referred to as an important relationship where productivity interface designers may have much to learn from their game design counterparts. The two fields have been sporadically brought together over the years but like a Hollywood on-screen partnership, the relationship seems to depend on an ongoing sexual tension rather than probable consummation..

Love at first sight: the early years

In his seminal work on direct manipulation [1] Shneiderman observes that the then current typical games – the arcade games of the 1980s and their domestic counterparts – offered successful examples of good interface

design but were distinct in their goal of challenging the player. Malone’s 1982 work on creating “enjoyable” user interfaces analyses an early educational game (used to teach fractions) in order to unpack the distinction that play and performance contribute to engagement [2]. Malone also points to the idea of “Challenge” as a major distinguishing feature between games and their workaday counterparts, where the “*easy to learn, hard to master*” dictum would be viewed as inappropriate. Even though the game he used in his analysis was an early PLATO teaching software piece with the very chunky minimal graphics available on that system, Malone also considers game interfaces in terms of ‘Fantasy’, or the manner in which the visual clues provided by the game interface calls on and evokes the real world. This observation leads him to offer two important elements for designing user interfaces, emotion and metaphor, heralding the current emphasis on designing for the human centred and engaged experience.

As game design evolved and its markets – and player satisfaction – grew, others called for user interface design to look to the form for design inspiration. In CHI ’94, a panel of games industry designers¹, chaired by Randy Pausch [3], all pointed to the manner in which game design is both human centred and context based, from Tim Skelly’s observation that a good game must adjust to the individual and offer different pathways to success, to David Thiel’s desire to see auditory feedback explored and implemented. Meanwhile, the early 90s had seen the emergence of the computer and video game industry that we know today with the early 3D titles like Wolfenstein 3D (1992) and Doom (1993) being released, the release of Myst in 1993 and use of CD-ROM storage capacities to enable high end graphic and audio environments.

Discussions at a CHI’97 workshop took the design tenet of ‘Fun’ and examined what might make games enjoyable, with the intent to set up a stronger dialogue between the HCI community and the games designers. Aspects pin-pointed in this workshop are familiar at one level, the need for “Learnability” and player satisfaction, but other terms and issues taken from the (then) incunabular field of games design research indicate some issues which are of interest in the current paradigm. Thus the workshop discusses ideas of player agency and the importance of the design process to implementing both the fun aspects and the sense of agency or ability to enact upon the game

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¹ Randy Pausch invented the award winning Little Computer People (Activision), a game that paved the way for the very successful Sim series, and Tim Skelly worked on SEGA’s Sonic the Hedgehog II.

world, aspects that, while not concrete outcomes in the traditional sense, are recognised as experiential outcomes in current design. By the late 90's game design started to become far more dependent on a human centred design approach. As Seebach [4] says, games have to be human centred as they have no concrete outcome as productivity software has, but rather they are played for pleasure and so games which are not designed to be human centred will fail.

Fatal attraction

The next phase of the relationship between HCI and game design sees a focus on the experiential outcomes and the psychology of play. In particular, questions about the nature of play and how it can be leveraged in user design and design methodologies are raised [5]. This period also sees the release of a number of iconic story driven rich graphic titles such as *Zelda: The Ocarina of Time* (1998), *Grim Fandango* (1998) and *Baldur's Gate* (1998). 1998 also saw the rich graphic worlds of Epic's *Unreal* take the FPS genre to a different level of gameplay and enjoyment. Research in the HCI field again looked to the use of metaphor and to exploiting the manner in which games create engagement, for example, the delightful notion that id Software's *Doom* could be 'modded' and used as an interface for process management in UNIX systems [6]: "An experienced system administrator can be given a large gun, while the beginner may be forced to deal with monsters with his or her bare hands. It would take a foolhardy player to attack a room full of monsters, just as a newbie should not kill a bunch of important processes."

Chao's work highlights the visual nature of computer games, juxtaposing previous unsuccessful productivity interface design attempts such as Microsoft's *Bob* (1995) with the very successful visual representations designed for play and agency of games. It is worth noting that 2001 saw the release of Fumito Ueda's *Ico*, a game with a strong visual aesthetic and emotional storyline that required the player to care about their NPC companion. *Ico* is also often referred to as a strong instance of computer games as artistic endeavour because it is such a narrative driven game with apparent intent to deliver a more emotional experience.

In 2002 a CHI workshop organised by Monk *et al* once again invited participants to examine the relationship between game design and productivity design. The focus was not so much on the value of play but on the reasons why the idea of fun and enjoyment might be seen as HCI's "unbeloved child" and how to bring engaged, emotional and human experience back into productivity design. The workshop proposes a world where HCI recognises that:

"Fun and enjoyment are set to be major issues as information and communication technology moves out of the office and into the living room." ([7] P. 924)

The same year, Bill Gaver wrote his "Designing for Homo Ludens", which posited that human centred design must take the very human into account: that we are by nature playful, curious and desirous of wonder [8]. Gaver's work sets up many of HCI and interaction de-

sign's current concerns: that designing must be human centred and context based and that as designers we must also be playful and provocative. From the perspective of the story of the relationship between HCI and games, it is interesting to note that Gaver doesn't mention games at all, although he does say that "play is a serious business" and bases much of his discussion on the work of Jonas Huizinga, one of game studies favourite authors. Meanwhile, in the games industry world, 2002 is noted as being a difficult year to classify, with a number of sequel and franchise titles coming out and the beginnings of the game community online phenomena with the release of Xbox Live. However, 2002 is also the year that Sony's *Everquest* MMO was announced as being "richer than Bulgaria²" and Will Wright's *The Sims* took the biggest selling game of all time title off *Myst*, announcing perhaps the emphasis we see now on games as social and constructive media with goals that resonate with notions of embodied and engaged design. More salient to this overview of the relationship, 2002 is the year that Sony presented the Eye Toy at the London Playstation Experience event³ and Spielberg's *Minority Report* presented a vision of interface design as body performance.

So, is it possible to announce 2002 as the year that HCI and games finally consummate their relationship? Not really, though we do indeed start to see discussion of games as a field in HCI. For example, Federoff published a study on game design process in a company producing a commercial title and her subsequent analysis and recommendations of areas where HCI design research can be applied [9]. Furthermore, 2002 saw the founding of the Serious Games Initiative⁴ formalising the use of games and the power of play to promote goals other than entertainment observed by Malone two decades earlier⁵.

You don't bring me flowers

Do these convergent themes usher in a new established, comfortable phase in the relationship between HCI and games? Apparently still not: a year later Dyck *et al* claim that games and usability design are "separated at birth" [10] and that examining the way that games focus of user satisfaction and performance can inform and improve the usability of other types of applications. The plaint here is however, no longer focused on the distinction between work and play, rather Dyck *et al* are interested in the

² Ania Lichtarowicz for the BBC News Online, Virtual kingdom richer than Bulgaria, Friday March 29, Available: <http://news.bbc.co.uk/2/hi/science/nature/1899420.stm>

³ ECTS 2002: PS2 Eye Toy unveiled, Game Spot post, Aug 31, 2002, Available: <http://au.gamespot.com/news/2878933.html>

⁴ The Serious Games Initiative was founded at the Woodrow Wilson Center for International Scholars in Washington, D.C. <http://www.seriousgames.org>

⁵ It is also interesting to note that 2002 is the year that Bushman and Anderson published their findings on the way that computer games promote aggression, See Bushman, B.J., Anderson, C.A., 2002. Violent video games and hostile expectations: a test of the general aggression model. *Personality and Social Psychology Bulletin* 28 (12).

ways that the games studied enhance communities and allow high degrees of customisation. The work is particularly impressed with the interface design that allows thousands of players to occupy the same space and to communicate simultaneously but which also enable individuals to get on with the task to hand (possibly involving slaying dragons) and work within smaller cooperative groups. The Dyck *et al* study uses Everquest as one of its examples, a game interface that receives much criticism the following year for its lack of usability design [11].

The Ye brothers' are perhaps a lone critical voice in year that saw Half Life 2 and of course, Blizzard's entry into the MMO scene, World of Warcraft, in the top titles. They take a cold usability look at games and the lack of a relationship between game interface design and HCI and notice that game interface design has much to learn from HCI. The brothers take issue with the way that the games industry uses its core goal of satisfying gameplay as a cover for some sloppy designing, pointing out that the industry is often seen as reluctant to pay attention to design research and body of experience in the field of user interface design. Meanwhile, another work in the same year yet again describes the relationship between HCI, usability as redolent with potential but unconsummated [12].

We don't talk anymore

The sizzling relationship between games and HCI seems to come off the heat in the later half of the first decade of the 21st Century. The field of game studies is by this time well established with DiGRA holding its first conference in 2003 and the concretisation of the discipline around its own particular issues. Of note is a special issue of Interacting with Computers [13] which recognised that the games industry was "progressing towards maturity" having moved into audiences beyond the stereotypical teenage males of previous eras and into designing for goals beyond challenge and entertainment. In this volume, Barr *et al* [14] question the ways in which games are different to the other software domains of HCI and re-examine a number of commercial games in terms of what they call "values", the core experience of the game.

Here, finally perhaps, we can see potential for a shared discourse between the two main protagonists in this soap opera, as the idea of core value resonates with game design's notion of game genre and core mechanic. Indeed Barr *et al* are the first of authors mentioned in this brief overview to actually define the games studied in terms of the main genre and core mechanic, although this author might have concerns about the core value of Valve Software's Half-Life 2 as being "aggression" when the game won numerous awards for its visuals, animation, AI and very importantly, narration and story line. However, perhaps this apparently minor quibble can provide insights into the reasons that these two areas are having such trouble finding common ground. Half-Life 2 is the second in a very successful series of science fiction themed First Person Shooters or FPS. As a game genre, the FPS has a long and honourable history from Maze War in 1973 to Halo Reach (2010). Its core mechanic, using projectile weapons in the first person, defines the genre, and the

action is seen through the eyes of the protagonist. Success in FPS depends on navigating the game world and quick reflexes. The majority of FPS give the player a narrative excuse to be in this situation (Gordon Freeman in HL2 must use his wits as well as his shooting skills to survive in his quests). Aggression on the other hand is variously defined but in essence presents behaviour with intent to cause harm or pain. There is a clear disjunction here then between a term taken from the real world and a game mechanic where the player is engaged in a challenging activity within the magic circle of play [15] and any intent is on the part of the game designer.

A further example of this dissonance is found in Juul's work on the mythical border between interface and gameplay [16] where he discusses a number of games and play situations in order to propose that there is no separation between the interface and gameplay. The main thrust of Juul's argument is clarification of the "easy to use, difficult to master" dictum in that he seems to be suggesting that a number of games interfaces, which are difficult to master, are actually aspects of gameplay and challenge. In some instances, perhaps, but if we look at the history of game interfaces we can see many examples of an interface exploited for novelty (and sales) purpose, not because they are essential to the game itself. For example, the Sony Eye Toy mentioned earlier had about a dozen titles made specifically for its affordances. Nintendo's Wii, whilst being a massive commercial success in many ways, actually has very few titles which really exploit the wii-mote interface in a natural way.

We clearly have a communication problem here; it would appear we do not talk the same language and that any useful commonality is disappeared by our frames of reference.

TIE A YELLOW RIBBON ROUND THE OLD OAK TREE

It has been 28 long years; do we still need to continue our attempts at a relationship? There is indeed an apparent reluctance on the part of the game industry to work with design research, witness a recent Gamasutra article which discusses research into techniques developed in VR and 3D spaces [17] and the reactions in the comments section to the piece. Of particular interest is the comment that:

"Research is not creation. You cannot create by researching. You can study what exists, but you cannot create that which does not yet exist (which is what creating is about)."

The somewhat heartfelt plaint behind this comment seems to be that games are creative objects and research is an analytic rather than creative process. We would like to differ here and reframe what HCI and interaction design research actually is – representing ourselves to the games industry as it were. HCI and interaction design have also "matured" since the heady early days of the relationship, focussing on the experience and how the experience for the engaged participant is mediated by technology. We have become, as Gaver would have it, provocateurs, playing with the serendipitous to explore the potential of technology to create embodied designs, we have taken Marc Weiser's "walk in the woods" quite seriously and

now many of us are looking back to games and the potential of game design [18] to see what other forms of experience we can create. Our business is very much in keeping with Brenda Braithwaite's plea:

The interface of a game is an expression of the player's fingertips into the game's dynamics. Make those touches as natural and as fulfilling as they can be. Please.

THE WORKSHOP

The workshop is about the design of the game interface, its philosophies, its foibles, its moments of achievement and delight with a view to the next generation of game design. We are interested in taking this "long engagement" to its logical next step, where the two partners in the relationship (game interface design and HCI) act as equal participants in the design and evolution of new and innovative experiences.

WORKSHOP AIMS AND GOALS

This workshop offers opportunity to researchers and designers in the field with an interest in designing for games to come together with those designing and making games to present their work and insights into this field with a view to further research and publishing opportunities. The workshop will consist of a morning of paper presentations and discussions with local industry game designers, followed by an afternoon of game interface design activities.

Papers might address areas such as:

- Game UI design and specific game genres
- Embodied experience in games
- HUDless game design
- Aesthetics and visual design
- What difference an I/O makes
- Culture and legacy in game interface design
- Different stories as interface
- Game design which moves into embodied experience

PAPER SUBMISSION

Researchers: Workshop participants should submit a short paper (4 pages) introducing their area of interest in this field using the [OZCHI 2010 paper template](#) format.

Practitioners: Workshop participants from Industry should submit a case study format paper using the [OZCHI case study and industry demo](#) format (1 page)

Papers and queries must be submitted to:

Contact: info@ozchi-design.org

Web: <http://interface.ozchi-design.org>

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